

ABSTRACT OF THE DISCLOSURE

This invention features an improved technique for search and track surveillance. In this invention, distinct and random (in both space and time) signal beams are simultaneous transmitted from an array of transmitter source elements in a manner to cover all sectors about a source location. In addition, countermeasures against a system according to the invention are difficult because the signal waveforms for each beam are distinct and random, making prediction of any signal waveform for any beam very unlikely. An array of receiver sensor elements is provided to receive signals that are scattered from remote objects and may or may not be co-located with and share the elements of the source array element. The scattered signals are received and processed to yield the direction and range of the remote objects.